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| 09/767,241 | 01/22/2001 | Brian A. Kapitan | 89664.127500 | 1462 |

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| EXAMINER |
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CARDONE, JASON D

| ART UNIT | PAPER NUMBER |
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2145

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/767,241

Applicant(s)

KAPITAN, BRIAN A.

Examiner

Jason D. Cardone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 21-29 is/are pending in the application.
- 4a) Of the above claim(s) 21-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the amendment of the applicant, filed on 10/18/04.

Claims 1-12 and 21-29 are presented for further examination.

2. Newly submitted claims 21-29 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: newly added claims 21-29 disclose storage of data packets in a drive card, while original claims 1-12 disclose suspending communications of drive cards in response to high-level commands. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 21-29 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chak et al. ("Chak"), USPN 6,038,967, in view of Kalkunte, USPN 5,963,560.

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5. Regarding claim 1, Chak discloses a method of communicating within a motion control system, the method comprising the steps of:

programming a plurality of drive cards to perform predetermined mathematical and logical functions in response to high-level commands [Chak, col. 17, lines 15-34 and col. 18, lines 40-59];

configuring each of the plurality of drive cards [Chak, col. 18, lines 4-21];

distributing intelligence throughout the motion control system by electrically interconnecting each of the plurality of drive cards with a local area network, each of the plurality of drive cards being further electrically connected to a corresponding component of the motion control system [Chak, col. 1, line 63 – col. 2, line 9 and col. 17, lines 15-34];

transmitting to the plurality of drive cards the high-level commands across the local area network; response to the high-level commands by each respective one of the plurality of drive cards; responding to the high-level commands by each of the plurality of drive cards [Chak, col. 18, lines 4-59].

Chak does not specifically disclose configuring each of the plurality of drive cards with a respective unique predetermined delay time; delaying response to the high-level commands and temporarily suspending communication over the local area network following response by the plurality of drive cards to the high-level commands to thereby ensure deterministic communication over the local area network. However, Kalkunte, in the same field of endeavor, discloses configuring a plurality of interface units with a respective unique predetermined delay time; delaying response to the high-level

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commands and temporarily suspending communication over the local area network following response by the plurality of interface units to the high-level commands to thereby ensure deterministic communication over the local area network [Kalkunte, col. 3, lines 31-65 and col. 4, lines 44-63]. It would have been obvious to one of ordinary skill in the art, at the time of the invention was made, to incorporate a predetermined delay interval, taught by Kalkunte, into the drive cards, taught by Chak, in order to efficiently access the network [Kalkunte, col. 1, lines 9-11].

6. Regarding claim 2, Chak-Kalkunte further discloses the local area network comprises an Ethernet network [Chak, col. 1, line 63 – col. 2, line 9] [Kalkunte, col. 1, lines 14-40].

7. Regarding claim 3, Chak-Kalkunte further discloses each the drive card includes a network controller, microprocessor, packet memory, memory, and firmware [Chak, col. 18, lines 40-59] [Kalkunte, col. 3, line 37 – col. 4, line 34].

8. Regarding claim 4, Chak-Kalkunte further discloses the transmission of data packets across the local area network [Chak, col. 18, lines 4-21] [Kalkunte, col. 3, lines 31-65].

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9. Regarding claim 5, Chak-Kalkunte further discloses the transmitting step comprises a personal computer transmitting the data packets [Chak, col. 18, lines 4-21] [Kalkunte, col. 4, lines 44-63].

10. Regarding claim 6, Chak-Kalkunte further discloses the personal computer includes an operating system, the operating system being one of a non-real-time operating system and a real-time operating system [Chak, col. 17, lines 15-34 and col. 18, lines 40-59] [Kalkunte, col. 3, lines 31-65].

11. Regarding claim 7, Chak-Kalkunte further discloses the personal computer includes motion control software running under the operating system [Chak, col. 17, lines 15-34] [Kalkunte, col. 3, lines 31-65].

12. Regarding claims 8 and 9, Chak-Kalkunte further discloses selectively storing within each of the plurality of drive cards the transmitted data packets, monitoring with the personal computer the level of transmitted data packets stored within each of the plurality of drive cards [Chak, col. 17, lines 15-34 and col. 18, lines 40-59] [Kalkunte, col. 8, line 46 – col. 9, lines 32].

13. Regarding claims 11 and 12, Chak-Kalkunte further discloses establishing promiscuous peer-to-peer communication within the local area network whereby the responses of each respective one of the plurality of drive cards to a high-level command

is received by each of the others of the plurality of drive cards, within each respective one of the plurality of drive cards the responses to the high-level commands from each of the others of the plurality of drive cards; determining the relevance of each of the responses stored within each of the plurality of drive cards; and discarding non-relevant responses stored within each of the plurality of drive cards [Chak, col. 17, lines 15-34 and col. 18, lines 40-59] [Kalkunte, col. 5, lines 16-57].

Allowable Subject Matter

14. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments filed 10/18/04 have been fully considered but they are not persuasive. In the remarks, Applicant argued in substance that:

16. (A) Neither Chak nor Kalkunte discloses a plurality of drive cards.

As to point (A), during patent examination and prosecution, claims must be given their broadest reasonable interpretation. *In re Van Geuns*, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed. Cir. 1993); *In re Prater*, 415 F.2d 1393, 1404, 162 USPQ 541, 550 (CCPA 1969). The invention of Chak has a plurality of drive cards [Chak, col. 1, line 63 – col. 2, line 8]. The invention of Chak is the improvement upon smart drive cards [Chak, col. 2, lines 11-18].

(B) Neither Chak nor Kalkunte discloses communication is temporarily suspended after a high-level command is sent and responded to.

As to point (B), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Kalkunte discloses temporarily suspending communication following response by the plurality of interface units to the high-level commands [Kalkunte, col. 3, lines 31-65 and col. 4, lines 44-63]. After setting up wait times between the hub and the stations, the communication is suspended until the wait time is over [Kalkunte, col. 5, lines 1-15].

Conclusion

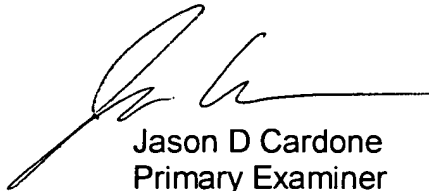
17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason D. Cardone whose telephone number is (571) 272-3933. The examiner can normally be reached on M.-Th. (6AM-3PM). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can be reached on (571) 272-6159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason D Cardone
Primary Examiner
Art Unit 2145

April 28, 2005